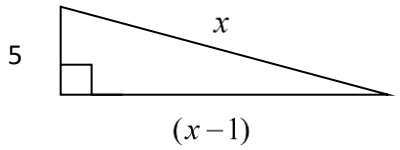
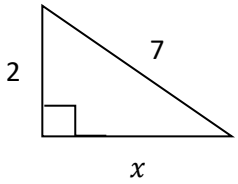
Name: _____ Date: _____ Section: _____

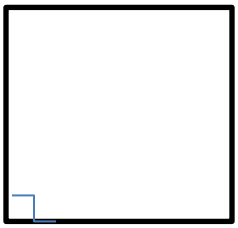
APPLIED GEOMETRY **Ch8: Review**

Using the Pythagorean theorem, find the value of x. Show all work. **Write your answer in simplest radical form.**

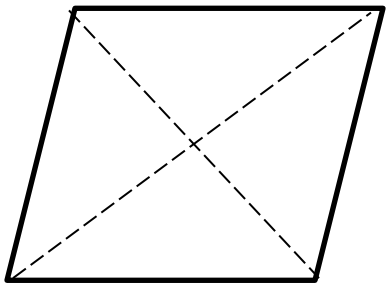
1. 


2. 


3. The length of a diagonal of a square is 10 inches. Find the length of a side. **Leave your answer in simplest radical form.**



4. If the diagonals of a rhombus measure 5 and 8 cm, then find the perimeter. **Round your answer to the nearest tenth.**



**SOH - CAH - TOA**

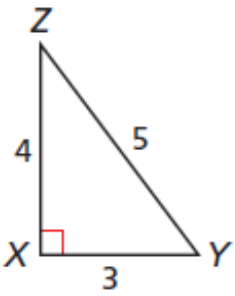
$$Sin\measuredangle = \frac{opposite}{hypotenuse} \qquad Cos\measuredangle = \frac{adjacent}{hypotenuse} \qquad Tan\measuredangle = \frac{opposite}{adjacent}$$

5. Label the sides of the triangle and identify the trig ratios.

   a. $Sin \measuredangle Z =$

   b. $Cos \measuredangle Z =$

   c. $Tan \measuredangle Z =$

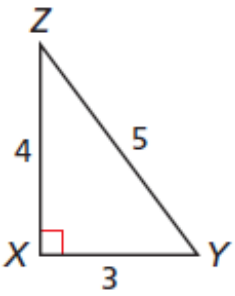



6. Label the sides of the triangle and identify the trig ratios.

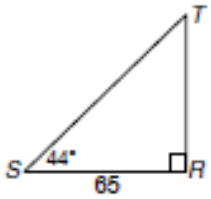
   a. $Sin \measuredangle Y =$

   b. $Cos \measuredangle Y =$

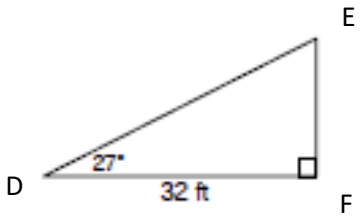
   c. $Tan \measuredangle Y =$



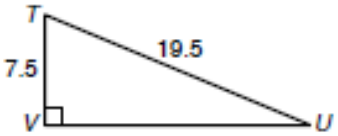

7. Find the value of ***ST to the nearest tenth.***



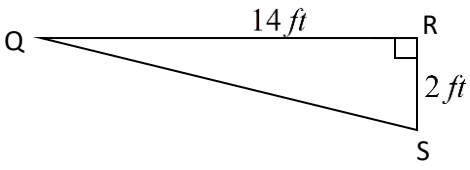

8. Find the value of ***EF to the nearest tenth.***




9. Find the measure of $\measuredangle U$ **to the nearest degree.**

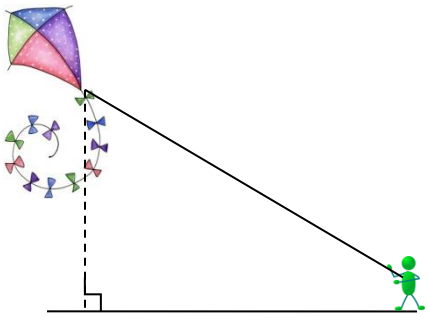



10. Find the measure of $\measuredangle Q$ **to the nearest degree.**

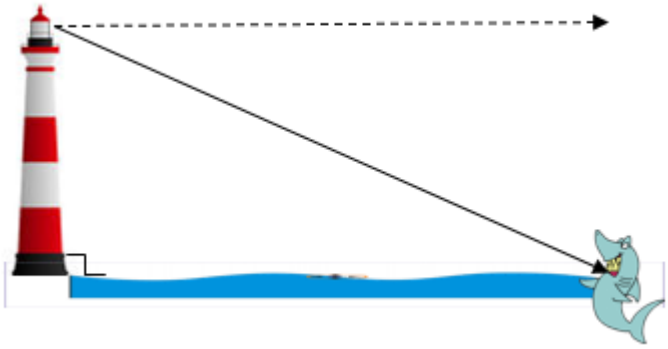


Word Problems: Label each diagram and show all work. Clearly identify your answer. Round accordingly.

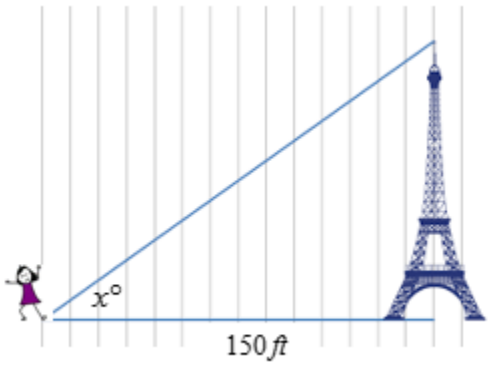
11. You are out flying your kite. You have let out $55\,ft$ of string. The **angle of elevation** from you to the kite is $37°$. What is the altitude of your kite? Round your answer *to the nearest tenth of foot?*



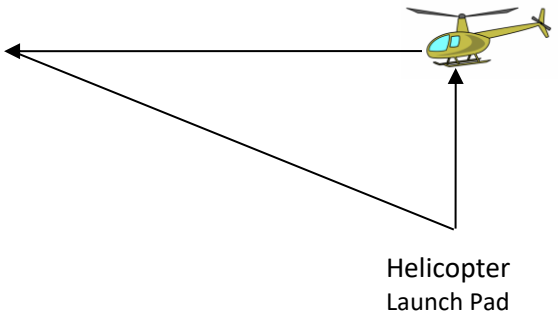
12. Henry is in the lighthouse that is 345 ft tall and overlooks the ocean. He sees a shark in the ocean at an **angle of depression** of $26°$. How far out in the ocean is the shark from the base of the lighthouse *to the nearest foot?*



13. You went to Paris to see the Eiffel Tower. You are 150 feet from its base and it is 984ft tall. What is the angle of elevation *(to the nearest degree)?*



14. A helicopter rose vertically 200 meters, then flew due west 600 meters. How far was the helicopter from where it started *(to the nearest meter)?* Clearly label diagram for full credit.




15. Construct a right triangle on the given line, with the point $P$ being the vertex of the right angle, and the two legs being congruent to segments *a* and *b*.